

Overview

HP EliteBook 1040 G4 Notebook PC



Front

- | | |
|-----------------------------|---|
| 1. Internal microphones (2) | 6. Audio combo jack |
| 2. Webcam and IR Camera | 7. USB 3.1 Gen 1 charging port |
| 3. Webcam LED | 8. Power button |
| 4. Fingerprint reader | 9. Security lock slot (Lock sold separately.) |
| 5. Glass clickpad | |

Overview



Rear

- | | |
|----------------------------------|---|
| 1. USB Type-C™ with Thunderbolt™ | 4. HDMI port (Cable not included.) |
| 2. USB Type-C™ with Thunderbolt™ | 5. WWAN SIM with plug (Plug is removable only for units with optional WWAN) |
| 3. USB 3.1 Gen 1 charging port | |

Overview

At a Glance

1. Natural silver CNC Aluminum chassis with diamond cut design
 2. Choice of 7th Generation Intel® Core™ i5, i7 Processors with integrated Intel® HD Graphics
 3. Display include your choice of 35.56 cm (14") diagonal IPS Wide viewing Angle, FHD or UHD, Touch or Non-Touch
 4. Get added protection in open or public places with the optional HP Sure View integrated privacy screen
 5. Passed 12 MIL-STD 810G testing, plus an additional 120,000 hours of reliability testing through HP's Total Test Process¹
 6. Never forget your password with your choice of simple authentication methods, including the IR camera for face recognition and Touch Fingerprint Sensor compatible with Windows Hello
 7. Weight starting at 2.99 lbs (1.36 kg)
 8. Height starting at of 15.95 mm
 9. Supports wireless LAN and wireless WAN options for connectivity on the go
 10. HP (67 WHr) Battery life up to 18 hrs
 11. Up to 1 TB Solid State Drives
 12. Up to 16 GB total system memory
 13. Engage teams, clients, and vendors with the best in class audio by Bang & Olufsen and the high-performance HP Premium Collaboration Keyboard
1. MIL-STD-810G testing is not intended to demonstrate fitness of U.S. Department of Defense (DoD) contract requirements or for military use. Test results are not a guarantee of future performance under these test conditions. Accidental damage requires an optional HP Accidental Damage Protection Care Pack.

NOTE: See important legal disclosures for all listed specs in their respective features sections.



Features

PRODUCT NAMES

HP EliteBook 1040 G4 Notebook PC

OPERATING SYSTEMS

Preinstalled

Windows 10 Pro 64 – HP recommends Windows 10 Pro.²
 Windows 10 Home 64²
 Windows 10 Home Single Language 64²
 FreeDOS 2.0
 NeoKylin Linux® 64

2. Not all features are available in all editions or versions of Windows. Systems may require upgraded and/or separately purchased hardware, drivers, software or BIOS update to take full advantage of Windows functionality. Windows 10 is automatically updated, which is always enabled. ISP fees may apply and additional requirements may apply over time for updates. See <http://www.windows.com/>.

PROCESSORS

Intel® Core™ i7-7820HQ with Intel® HD Graphics 630 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 8 MB cache, 4 cores)^{3,4,5}

Intel® Core™ i7-7600U with Intel HD Graphics 620 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores)^{3,4,5}

Intel® Core™ i7-7500U with Intel HD Graphics 620 (2.9 GHz, up to 3.9 GHz with Intel Turbo Boost Technology, 4 MB cache, 2 cores)^{3,4,5}

Intel® Core™ i5-7300U with Intel HD Graphics 620 (2.6 GHz, up to 3.5 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores)^{3,4,5}

Intel® Core™ i5-7200U with Intel HD Graphics 620 (2.5 GHz, up to 3.1 GHz with Intel Turbo Boost Technology, 3 MB cache, 2 cores)^{3,4,5}

3. Multicore is designed to improve performance of certain software products. Not all customers or software applications will necessarily benefit from use of this technology. Performance and clock frequency will vary depending on application workload and your hardware and software configurations. Intel's numbering is not a measurement of higher performance.
4. Processor speed denotes maximum performance mode; processors will run at lower speeds in battery optimization mode.
5. **NOTE:** In accordance with Microsoft's support policy, HP does not support the Windows 8 or Windows 7 operating system on products configured with Intel and AMD 7th generation and forward processors or provide any Windows 8 or Windows 7 drivers on <http://www.support.hp.com>.

CHIPSET

Integrated with processor



Features

GRAPHICS

Integrated

Intel® HD Graphics 630⁶

Intel® HD1 Graphics 620 with shared video memory⁶

6. HD content required to view HD images.

DISPLAY

Internal

HP Sure View integrated privacy screen 35.56 cm (14") diagonal FHD IPS eDP LED backlit touch screen, 700 cd/m2, 100% sRGB with Corning® Gorilla® Glass 4, privacy screen, camera and WWAN (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal FHD IPS eDP LED-backlit touch screen, 340 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4 and camera (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal FHD IPS eDP LED-backlit touch screen, 340 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4, camera and WWAN (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal 4K IPS eDP LED-backlit touch screen, 400 cd/m2, 100% sRGB, direct bonded with Corning® Gorilla® Glass 4, camera and WWAN (3840 x 2160) ^{6,7}

HP Sure View integrated privacy screen 35.56 cm (14") diagonal FHD IPS eDP antiglare LED-backlit, 700 cd/m2, 100% sRGB with camera and WWAN (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal FHD UWVA eDP anti-glare LED-backlit, 340 cd/m2, 100% sRGB with camera (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal FHD UWVA eDP anti-glare LED-backlit, 340 cd/m2, 100% sRGB with camera and WWAN (1920 x 1080) ^{6,7}

35.56 cm (14") diagonal 4K UWVA eDP anti-glare LED-backlit, 400 cd/m2, 100% sRGB with camera and WWAN (3840 x 2160) ^{6,7}

Size (imperial)

14"

Size (metric)

35.56m

6. HD content required to view HD images.
7. Resolutions are dependent upon monitor capability, and resolution and color depth settings.

Features

STORAGE AND DRIVES

M.2 (NGFF) 2280 Solid State Drive
 128 GB SATA-3 SS TLC⁸
 256 GB PCIe Gen 3x4 NVMe SS TLC⁸
 256 GB SATA-3 SS TLC (Opal 2)⁸
 360 GB PCIe Gen3x4 SS TLC (Intel)⁸
 512 GB PCIe Gen3x4 NVMe SS TLC⁸
 360 GB M.2 PCIe Gen 3x4 TLC SSD⁸
 512 GB PCIe Gen3x4 NVMe SS MLC⁸
 1 TB PCIe Gen3x4 NVMe SS TLC⁸

8. For storage drives, GB = 1 billion bytes. TB = 1 trillion bytes. Actual formatted capacity is less. Up to 30 GB (for windows 10) is reserved for system recovery software.

MEMORY

8 GB DDR4-2133 SDRAM
 16 GB DDR4-2133 SDRAM

Configurations

Memory soldered down
 System runs at 2133
 Supports Dual Channel Memory

Maximum

16 GB DDR4-2133 SDRAM

NETWORKING/COMMUNICATIONS

WLAN

Intel Dual band wireless-AC 8265 802.11AC 2x2 WiFi + BT 4.2 Combo Adaptor⁸
 Compatible with Miracast-certified devices (models with Windows 10)⁹

NFC

NFC Mirage module (NXP NPC300 I2C 10mmx17mm)

WWAN

Foxconn HP It4120 LTE/EVDO/HSPA+ w/GPS M.2¹⁰
 Huawei HP It4132 - LTE/HSPA+ w/GPS M.2¹⁰
 Fibocom HP hs3210 WW HSPA+ w/o GPS¹⁰
 "No WWAN" option



Features

9. Wireless access point and Internet service required and sold separately. Availability of public wireless access points limited. The specifications for the 802.11ac WLAN are draft specifications and are not final. If the final specifications differ from the draft specifications, it may affect the ability of the notebook to communicate with other 802.11ac WLAN devices.
10. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information:
<http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.
11. WWAN module is optional, must be configured at the factory and requires separately purchased service contract. Check with service provider for coverage and availability in your area. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products, in all regions.

AUDIO/MULTIMEDIA

Audio

Audio by Bang & Olufsen; Digital dual-array microphone
Integrated premium speakers

Camera

IR camera for face authentication with Windows Hello¹²

Webcam

720p HD webcam⁶

6. HD content required to view HD images.
12. Internet access required.

KEYBOARDS/POINTING DEVICES/BUTTONS & FUNCTION KEYS

Keyboard

Full size
HP Premium Collaboration Keyboard
Backlit
DuraKeys
Spill-resistant

Pointing Device

Clickpad with image sensor and glass surface, multi-touch gestures enabled, taps enabled as default.

SOFTWARE AND SECURITY

Software

Native Miracast Support¹⁰
HP LAN-Wireless Protection
HP Wireless Wakeup



Features

HP Sure Connect
 HP Velocity
 HP 3D DriveGuard
 HP ePrint + JetAdvantage ¹¹
 HP Hotkey Support
 HP Recovery Manager
 HP Jumpstart
 HP Support Assistant¹²
 HP Noise Cancellation Software
 Buy Office
 Bing Search
 Manageability Features
 HP Driver Packs¹³
 HP System Software Manager (SSM)
 HP BIOS Config Utility (BCU)
 HP Client Catalog
 HP Management Integration Kit for Microsoft System Center Configuration Manager¹⁴
 LANDESK Management¹⁵

Security Management

HP BIOSphere Gen3¹⁶
 HP DriveLock & Automatic DriveLock
 BIOS Update via Network
 HP Sure Start Gen3
 TPM 2.0 Embedded Security Chip shipped with Windows 10 (Common Criteria EAL4+ Certified)
 SATA 0,1 port disablement (viaBIOS)
 RAID configurations
 Serial, USB enable/disable (viaBIOS)
 Power-on password (viaBIOS)
 Setup password (viaBIOS)
 Support for chassis padlocks and cable lock devices
 Integrated hood sensor
 Absolute Persistence Module ¹⁷
 HP Client Security Suite Gen 3 [HP Security Manager (HP Credential Manager, HP Password Manager, HP Spare Key), HP Power On Authentication, HP Device Access Manager¹⁸
 Microsoft Defender¹⁹
 HP Sure Click

10. Miracast is a wireless technology your PC can use to project your screen to TVs, projectors, and streaming media players that also support Miracast. You can use Miracast to share what you're doing on your PC and present a slide show. For more information: <http://windows.microsoft.com/en-us/windows-8/project-wireless-screen-miracast>.



Features

11. HP ePrint Drive requires an Internet connection to HP web-enabled printer and HP ePrint account registration (for a list of eligible printers, supported documents and image types and other HP ePrint details, see www.hp.com/go/eprintcenter). Print times and connection speeds may vary.
12. HP Support Assistant requires Windows and Internet access.
13. HP Driver Packs not preinstalled, however available for download at <http://www.hp.com/go/clientmanagement>.
14. HP Management Integration Kit can be downloaded from <http://www8.hp.com/us/en/ads/clientmanagement/overview.html>.
15. LANDESK Management subscription required.
16. HP BIOSphere Gen3 requires Intel® 7th or 8th Generation processors
17. Absolute agent is shipped turned off, and will be activated when customers activate a purchased subscription. Subscriptions can be purchased for terms ranging multiple years. Service is limited, check with Absolute for availability outside the U.S. The Absolute Recovery Guarantee is a limited warranty. Certain conditions apply. For full details visit: <http://www.absolute.com/company/legal/agreements/computrace-agreement>. Data Delete is an optional service provided by Absolute Software. If utilized, the Recovery Guarantee is null and void. In order to use the Data Delete service, customers must first sign a Pre-Authorization Agreement and either obtain a PIN or purchase one or more RSA SecurID tokens from Absolute Software.
18. HP Client Security Suite Gen3 requires Windows and Intel® or AMD 7th or 8th Generation processors.
19. Microsoft Defender Opt in and internet connection required for updates.

POWER

Power Supply

65 W USB Type-C™ AC adapter²⁰
90 W USB Type-C™ AC adapter²⁰

Primary Battery

HP Long Life 6-cell, 67 Wh Li-ion^{21,22}

NOTE: Battery is internal and not replaceable by customer.

Power Cord

65W USB-Type C™, Duckhead Power Cord Length: 1.0m
90W USB-Type C™, Duckhead Power Cord Length: 1.0m

Battery life

Up to 18 hours²³

20. Availability may vary by country.
21. Supports HP Fast Charging with 90W only
22. Battery is internal and not replaceable by customer. Serviceable by warranty.
23. Windows 10 MM14 battery life will vary depending on various factors including product model, configuration, loaded applications, features, use, wireless functionality, and power management settings. The maximum capacity of the battery will naturally decrease with time and usage. See www.bapco.com for additional details.

WEIGHTS & DIMENSIONS

Weight

Starting at 2.99 lbs²⁴



Features

Starting at 1.35 kg²⁴

Dimensions (w x d x h)

12.95 x 9.17 x 0.63 in

32.89 x 23.28 x 1.59 cm

24. Weight will vary by configuration.

PORTS/SLOTS

2 USB Type-C™ with Thunderbolt™

2 USB 3.1 Gen 1 Charging

1 HDMI 1.4²⁵

1 headphone/microphone combo

25. HDMI 1.4 cable sold separately.

SERVICE AND SUPPORT

1 year standard commercial warranty; 1 year limited warranty on primary battery. On-site service and optional HP Care Pack Services are available to extend your protection beyond the standard warranty. Service levels and response times for HP Care Packs may vary depending on your geographic location. Restrictions and limitations apply. Service starts at date of hardware purchase. For details, visit <http://www.hp.com/go/cpc>²⁶

26. HP Care Packs are sold separately. Service levels and response times for HP Care Packs may vary depending on your geographic location. Service starts on date of hardware purchase. Restrictions and limitations apply. For details, visit www.hp.com/go/cpc. HP services are governed by the applicable HP terms and conditions of service provided or indicated to Customer at the time of purchase. Customer may have additional statutory rights according to applicable local laws, and such rights are not in any way affected by the HP terms and conditions of service or the HP Limited Warranty provided with your HP Product.

CERTIFICATION AND COMPLIANCE

ENERGY STAR® certified

EPEAT® Gold²⁷

27. EPEAT® registered where applicable. EPEAT registration varies by country. See <http://www.epeat.net> for registration status by country.



Technical Specifications**DISPLAYS**

Note: All specifications represent the typical specifications provided by HP's component manufacturers; actual performance may vary either higher or lower.

**Panel LCD 14 inch FHD
(1920x1080) Anti-Glare
WLED UWVA 72percent cg
340nits eDP 1.3 + PSR
ultraslim 2.4mm NB**

Outline Dimensions (W x H x D)	315.41 x 196.17 max. (w/ PCB)
Active Area	309.37 x 174.02 (mm)
Weight	225 g max
Diagonal Size	14.0 (inch)
Surface Treatment	Anti-Glare (AG)
Touch enabled	Yes
Contrast Ratio	600:1 (typical)
Refresh Rate	60 Hz
Brightness	340 nits
Pixel Resolution	
Format	RGB
Configuration	1920 x 1080 (FHD)
Interface	eDP 1.3 + PSR
LCD Mode	
PPI	157
Viewing Angle	UWVA 85/85/85/85

**Panel LCD 14 inch UHD
(3840x2160) Anti-Glare
WLED UWVA 72percent cg
400nits eDP 1.3 + PSR
ultraslim N.B.**

Outline Dimensions (W x H x D)	315.31 x 199.54 (mm) max (w/ PCB)
Active Area	309.31 x 173.99 (mm)
Weight	240 g max
Diagonal Size	14.0 (inch)
Surface Treatment	Anti-Glare (AG)
Touch enabled	Yes
Contrast Ratio	1200:1 (typical)
Refresh Rate	60 Hz
Brightness	400 nits
Pixel Resolution	
Format	RGB
Configuration	3840 x 2160 (UHD)
Interface	eDP 1.3 + PSR
LCD Mode	
PPI	315
Viewing Angle	UWVA 85/85/85/85



QuickSpecs

Technical Specifications

STORAGE AND DRIVES

HARD DRIVES

SSD 128GB 2280 M2 SATA-3 TLC	Drive Weight	0.02 lb (10 g)
	Capacity	128GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	ATA-8, SATA 3.0
	Performance	
	Maximum Sequential Read	Up To 520 MB/s
	Maximum Sequential Write	Up To 450 MB/s
	Logical Blocks	250,069,680
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	DIPM; TRIM; DEVSLP

SSD 1TB 2280 PCIe-3x4 NVMe TLC	Drive Weight	0.02 lb (10 g)
	Capacity	1024GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Performance	
	Maximum Sequential Read	Up To 2800 MB/s
	Maximum Sequential Write	Up To 1600 MB/s
	Logical Blocks	2,000,409,264
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2

SSD 256GB 2280 M2 SATA-3 Self Encrypted OPAL2 TLC	Drive Weight	0.02 lb (10 g)
	Capacity	256GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	ATA-8, SATA 3.0
	Performance	
	Maximum Sequential Read	Up To 530 MB/s
	Maximum Sequential Write	Up To 515 MB/s
	Logical Blocks	500,118,192
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	DIPM; TRIM; DEVSLP



QuickSpecs

Technical Specifications

SSD 360GB 2280 PCIe-3x4 NVMe TLC	Drive Weight	0.02 lb (10 g)
	Capacity	360GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Performance	
	Maximum Sequential Read	Up To 1700 MB/s
	Maximum Sequential Write	Up To 600 MB/s
	Logical Blocks	703,282,608
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2
SSD 512GB 2280 M2 PCIe-3x4 SS NVMe	Drive Weight	0.02 lb (10 g)
	Capacity	512GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Performance	
	Maximum Sequential Read	Up To 3000 MB/s
	Maximum Sequential Write	Up To 1500 MB/s
	Logical Blocks	1,000,215,216
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2
SSD 512GB 2280 M2 PCIe-3x4 SS NVMe TLC	Drive Weight	0.02 lb (10 g)
	Capacity	512GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	PCIe NVMe Gen3X4
	Performance	
	Maximum Sequential Read	Up To 2600 MB/s
	Maximum Sequential Write	Up To 1400 MB/s
	Logical Blocks	1,000,215,216
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	TRIM; L1.2



QuickSpecs

Technical Specifications

SSD 512GB 2280 M2 SATA-3 TLC FIPS	Drive Weight	0.02 lb (10 g)
	Capacity	512GB
	Height	0.09 in (2.3 mm)
	Width	0.87 in (22 mm)
	Interface	ACS-3, SATA 3.2
	Performance	
	Maximum Sequential Read	Up To 530 MB/s
	Maximum Sequential Write	Up To 400 MB/s
	Logical Blocks	1,000,215,216
	Operating Temperature	32° to 158°F (0° to 70°C) [ambient temp]
	Features	DIPM; TRIM; DEVSLP



QuickSpecs

Technical Specifications

NETWORKING/COMMUNICATIONS

WLAN

Intel 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.2 Combo	Wireless LAN Standards	IEEE 802.11a IEEE 802.11b IEEE 802.11g IEEE 802.11n IEEE 802.11ac
	Interoperability Frequency Band	Wi-Fi certified 802.11b/g/n <ul style="list-style-type: none"> • 2.402 – 2.482 GHz 802.11a/n <ul style="list-style-type: none"> • 4.9 – 4.95 GHz (Japan) • 5.15 – 5.25 GHz • 5.25 – 5.35 GHz • 5.47 – 5.725 GHz • 5.825 – 5.850 GHz
	Data Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: MCS 0 ~ MCS 15, (20MHz, and 40MHz) <ul style="list-style-type: none"> • 802.11ac : MCS0 ~ MCS9, (1SS, and 2SS) (20MHz, 40MHz, and 80MHz)
	Modulation	Direct Sequence Spread Spectrum
	Security	BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM <ul style="list-style-type: none"> • IEEE and WiFi compliant 64 / 128 bit WEP encryption for a/b/g mode only • AES-CCMP: 128 bit in hardware • 802.1x authentication • WPA, WPA2: 802.1x. WPA-PSK, WPA2-PSK, TKIP, and AES. • WPA2 certification • IEEE 802.11i • Cisco Certified Extensions, all versions through CCX4 and CCX Lite • WAPI
	Network Architecture Models	Ad-hoc (Peer to Peer) Infrastructure (Access Point Required)
	Roaming	IEEE 802.11 compliant roaming between access points
	Output Power[2]	<ul style="list-style-type: none"> • 802.11b : +14dBm minimum • 802.11g : +12dBm minimum • 802.11a : +12dBm minimum • 802.11n HT20(2.4GHz) : +12dBm minimum • 802.11n HT40(2.4GHz) : +12dBm minimum • 802.11n HT20(5GHz) : +10dBm minimum • 802.11n HT40(5GHz) : +10dBm minimum • 802.11ac VHT80(5GHz) : +10dBm minimum



QuickSpecs

Technical Specifications

Power Consumption	Transmit: 2.0 W (max) Receive: 1.6 W (max) Idle mode (PSP): 180 mW (WLAN Associated) Idle mode: 50 mW (WLAN unassociated) Connect Standby: 10 mW Radio disabled 8 mW
Power Management	ACPI and PCI Express compliant power management 802.11 compliant power saving mode
Receiver Sensitivity[3]	802.11b, 1Mbps : -93.5dBm maximum 802.11b, 11Mbps : -84dBm maximum 802.11a/g, 6Mbps : -86dBm maximum 802.11a/g, 54Mbps : -72dBm maximum 802.11n, MCS07 : -67dBm maximum 802.11n, MCS15 : -64dBm maximum 802.11ac, MCS0 : -84dBm maximum 802.11ac, MCS9 : -59dBm maximum
Antenna type	High efficiency antenna with spatial diversity, mounted in the display enclosure Two embedded dual band 2.4/5 GHz antennas are provided to the card to support WLAN MIMO communications and Bluetooth communications
Form Factor	PCI-Express M.2 MiniCard
Dimensions	Type 2230 : 2.3 x 22.0 x 30.0 mm
Weight	Type 2230 : 2.8g
Operating Voltage	3.3v +/- 9%
Temperature	Operating 14° to 158° F (-10° to 70° C) Non-operating -40° to 176° F (-40° to 80° C)
Humidity	Operating 10% to 90% (non-condensing) Non-operating 5% to 95% (non-condensing)
Altitude	Operating 0 to 10,000 ft (3,048 m) Non-operating 0 to 50,000 ft (15,240 m)
LED Activity	LED Amber – Radio OFF; LED White – Radio ON

HP Integrated Module with Bluetooth 4.0/4.1/4.2 Wireless Technology

Bluetooth Specification	4.0/4.1/4.2 Compliant
Frequency Band	2402 to 2480 MHz
Number of Available Channels	Legacy : 0~79 (1 MHz/CH) BLE : 0~39 (2 MHz/CH)
Data Rates and Throughput	Legacy : 3 Mbps data rate; throughput up to 2.17 Mbps BLE : 1 Mbps data rate; throughput up to 0.2 Mbps Legacy : Synchronous Connection Oriented links up to 3, 64 kbps, voice channels Legacy : Asynchronous Connection Less links 2178.1 kbps/177.1 kbps asymmetric (3-DH5) or 864 kbps symmetric (3-EV5)
Data Rates and Throughput Transmit Power	The Bluetooth component shall operate as a Class II Bluetooth device with a maximum transmit power of + 4 dBm for BR and EDR.



QuickSpecs

Technical Specifications

Power Consumption	Peak (Tx) 330 mW Peak (Rx) 230 mW Selective Suspend 17 mW
Electrical Interface	USB 2.0 compliant
Bluetooth Software Supported	Microsoft Windows Bluetooth Software
Link Topology	
Power Management	Microsoft Windows ACPI, and USB Bus Support
Certifications	FCC (47 CFR) Part 15C, Section 15.247 & 15.249
Power Management Certifications	ETS 300 328, ETS 300 826 Low Voltage Directive IEC950
Bluetooth Profiles Supported	UL, CSA, and CE Mark BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)
Bluetooth Profiles Supported	BT4.1-ESR 5/6/7 Compliance LE Link Layer Ping LE Dual Mode LE Link Layer LE Low Duty Cycle Directed Advertising LE L2CAP Connection Oriented Channels Train Nudging & Interlaced Scan BT4.2 ESR08 Compliance LE Secure Connection- Basic/Full LE Privacy 1.2 –Link Layer Privacy LE Privacy 1.2 –Extended Scanner Filter Policies LE Data Packet Length Extension FAX Profile (FAX) Basic Imaging Profile (BIP)2 Headset Profile (HSP) Hands Free Profile (HFP) Advanced Audio Distribution Profile (A2DP)

WWAN



QuickSpecs

Technical Specifications

HP It4132 LTE/HSPA+ 4G Mobile Broadband Module	Technology/Operating bands	LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3) MHz, 850 (Band 5), 2600 (Band 7), 900 (Band 8) MHz, 800 (Band 20), 700 (Band 28) MHz. HSPA+: 2100 (Band 1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 (Band 5), 900 (Band 8) MHz
	Wireless protocol standards	3GPP Release 10 LTE Specification CAT.4, 20MHz BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification E-GPRS: Class B, Multi-slot class 12, coding schemes CS1 - CS4 and MSC1 - MSC9
	GPS	Standalone, A-GPS (MS-B and LTO)
	GPS bands	1575.42 MHz ± 1.023 MHz, GLONASS 1596-1607MHz
	Maximum data rates	LTE: 150 Mbps (Download), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload) EDGE: 236.8 kbps (Download), 236.8 kbps (Upload) GPRS: 85.6 kbps(Download), 85.6 kbps (Upload)
	Maximum output power	LTE: 23 dBm HSPA+: 23.5 dBm E-GPRS 1900/1800: 26 dBm E-GPRS 900/850: 27 dBm GPRS 1900/1800: 29.5 dBm GPRS 900/850: 32.5 dBm
	Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,600 mA (peak); 500 mA (average)
	Form Factor	M.2, 3042-S3 Key B
	Weight	6 g
	Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

NOTE: Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

HP It4210 LTEHSPA+ 4G Mobile Broadband Module	Technology/Operating bands	FDD LTE: LTE: 2100 (Band 1), 1900 (Band 2), 1800 (Band 3) , 1700 (Band 4), 850 (Band 5), 2600 (Band 7), 900 (Band 8) , 1400 (Band 11), 700 (Band 12), 700 (Band 13) 700 (Band 17) , 850 (Band 18) , 850 (Band 19), 800 (Band 20), 1450 (Band 21) , 850 (Band 26) 700 (Band 28) MHz, 700 (Band 29) , 2300 (Band 30) , 2100 (Band 66) MHz TDD LTE: 2600 (Band 38) , 1900 (Band 39) , 2300 (Band 40) , 2500 (Band 41) MHz HSPA+: 2100 (Band 1), 1900 (Band 2), 1700 (Band 4), 850 (Band 5), 900 (Band 8) MHz
	Wireless protocol standards	3GPP Release 11 LTE Specification CAT.9, MAX 60MHz aggregation BW WCDMA R99, 3GPP Release 5, 6, 7 and 8 UMTS Specification
	GPS	Standalone, A-GPS (MS-B and LTO)



QuickSpecs

Technical Specifications

GPS bands	GPS 1575.42 MHz \pm 1.023 MHz, GLONASS 1596–1607MHz, Beidou 1561.098 \pm 2.046 MHz
Maximum data rates	LTE: 450 Mbps (DL 3CA), 50 Mbps (Upload) DC-HSPA+: 42 Mbps (Download), 5.76 Mbps (Upload) HSPA+: 21Mbps (Download), 5.76 Mbps (Upload)
Maximum output power	LTE: 23 dBm HSPA+: 23.5 dBm
Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
Form Factor	M.2, 3042-S3 Key B
Weight	6 g
Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

NOTE: Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

HP hs3210 HSPA+ Mobile Broadband Module	Technology/Operating bands	HSPA+: 2100 (Band1), 1900 (Band 2), 850 (Band 5), 900 (Band 8) MHz E-GPRS: 1900 (Band 2), 1800 (Band 3), 850 MHz (Band 5), 900 (Band 8) MHz
	Wireless protocol standards	WCDMA R99, 3GPP Release 5, 6 and 7 UMTS Specification E-GPRS: Class B, Multi-slot class 33, coding schemes CS1 - CS4 and MSC1 - MSC9
	GPS	Not supported
	GPS bands	Not supported
	Maximum data rates	HSPA+: 21.6 Mbps (Download), 5.76 Mbps (Upload)
	Maximum output power	E-GPRS: 296 kbps (Download), 236.8 kbps (Upload) HSPA+: 1,100 mA (peak); 800 mA (average) E-GPRS: 2,800 mA (peak); 700 mA (average)
	Maximum power consumption	LTE: 1,200 mA (peak); 900 mA (average) HSPA+: 1,100 mA (peak); 800 mA (average)
	Form Factor	M.2, 3042-S3 Key B
	Weight	6 g
	Dimensions (Length x Width x Thickness)	42 x 30 x 2.3 mm

NOTE: Mobile Broadband is an optional feature. Connection requires wireless data service contract, network support, and is not available in all areas. Contact service provider to determine the coverage area and availability. Connection speeds will vary due to location, environment, network conditions, and other factors. 4G LTE not available on all products or in all countries.

POWER

Dimensions (H x W x D)	2.91 x 2.91 x 1.12 in (7.4 x 7.4 x 2.85 cm)
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QuickSpecs

Technical Specifications

AC Adapter 65 Watt nPFC USB type C	Weight	0.54 lb (245g) max	
	Output	Input Efficiency	81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 10V/5A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A
		Input frequency range	47 to 63 Hz
		Input AC current	1.7 A at 90 VAC and maximum load
		Output power	65W
		DC output	5V/9V/10V/12V/15V/20V
		Hold-up time	5 ms at 115 VAC input
		Output current limit	<8.0A
		Connector	Duck head / duck head power cord, without Smart ID DC connector
		Environmental Design	
	Operating temperature	32° to 95° F (0° to 35° C)	
	Non-operating (storage) temperature	-4° to 185° F (-20° to 85° C)	
	Altitude	0 to 16,400 ft (0 to 5,000 m)	
	Humidity	5% to 95%	
Storage Humidity	5% to 95%		
EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives * Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE. * MTBF - over 100,000 hours at 25°C ambient condition.		

AC Adapter 90 Watt PFC USB type C	Dimensions (H x W x D)	129.5x65.5x28.5mm (5.09 x 2.57 x 1.12 inch)
	Weight	0.320 kg (0.705lb)
	Input Efficiency	81.5% min at 115 Vac/ 230Vac @ 5V/3A 86.7% min at 115 Vac/ 230Vac @ 9V/3A 88% min at 115 Vac/ 230Vac @ 10V/5A 88% min at 115 Vac/ 230Vac @ 12V/5A 89% min at 115 Vac/ 230Vac @ 15V/4.33A 89% min at 115 Vac/ 230Vac @ 20V/3.25A
	Input frequency range	47 to 63 Hz
	Input AC current	1.7 A at 90 VAC and maximum load
	Output	
	Output power	90W
	DC output	5V/9V/10V/12V/15V/20V
	Hold-up time	5 ms at 115 VAC input
	Output current limit	<11A



QuickSpecs

Technical Specifications

Connector	C6 (3pin/with grounded, without Smart ID DC connector)
Environmental Design	Operating temperature 32° to 95° F (0° to 35° C)
	Non-operating (storage) temperature -4° to 185° F (-20° to 85° C)
	Altitude 0 to 16,400 ft (0 to 5,000 m)
	Humidity 5% to 95%
	Storage Humidity 5% to 95%
EMI and Safety Certifications	*CE Mark - full compliance with LVD and EMC directives
	* Worldwide safety standards - IEC60950, EN60950, UL60950, Class1, SELV; Agency approvals - C-UL-US, NORDICS, DENAN, EN55022 Class B, FCC Class B, CISPR22 Class B, CCC, NOM-1 NYCE.
	* MTBF - over 100,000 hours at 25°C ambient condition.

Battery BE 6 Cell WHr 67 Long Life -PL Fast Charge	Dimensions (H x W x L)	9.45 x 86.1 x 271mm (0.372 x 3.38 x 10.66 inch)
	Weight	0.271 kg (0.5971lb)
	Cells/Type	ATL: 416760 Coslight: 416760G
	Energy	Voltage 11.55V
		Amp-hour capacity 5800mAh / 5510mAh
		Watt-hour capacity 67.0Wh / 63.65Wh
	Temperature	Operating (Charging) 0°C ~ 50°C
		Operating (Discharging) -10°C ~ 60°C
	Fuel Gauge LED	No
	Warranty	15 months
	Optional Travel Battery Available	No

Country of Origin

China



Options and Accessories (sold separately and availability may vary by country)

Type	Description	Part Number
Cases	HP Business Slim Top Load	H5M91AA
	HP Business Backpack	H5M90AA
	HP Essential Top Load Case	H2W17AA#xxx
Docking	HP Elite 90W Thunderbolt3 Dock	1DT93AA#xxx
	HP Thunderbolt Dock 120W G2	TBD
	HP USB-C Mini Dock	1PM64AA#xxx
	HP USB-C Universal Dock	1MK33AA#xxx
	HP Elite USB-C Dock	Z9R42AA
	HP Elite USB-C Dock G3	2DW60AA
	HP USB-C Travel Dock	T0K29AA
	HP USB Travel Dock	T0K30AA
I/O Devices	HP Comfort Grip Wireless Mouse	H2L63AA
	HP Wireless Premium Mouse	1JR31AA
	HP USB Premium Mouse	1JR32AA
	HP Wireless (Link-5) Keyboard	T6U20AA
	HP Slim USB Keyboard and Mouse	T6T83AA
	HP USB-C to USB-A Hub	Z6A00AA
	HP USB-C to RJ45	V7W66AA#xxx
	HP USB to RJ 45	N7P47AA
	HP USB-C to VGA Adapter	N9K76AA
	HP USB-C to DisplayPort Adapter	N9K78AA
	HP HDMI to VGA Adapter	H4F02AA
Power	HP 65W USB-C AC Adapter	1HE08AA#xxx
	HP 90W USB-C AC Adapter	TBD
	HP USB-C Notebook Power Bank	1TZ86AA
Storage	HP External USB Optical Drive	F2B56AA
Security	HP Keyed Cable Lock 10mm	T1A62AA
	HP Dual Head Keyed Cable Lock	T1A64AA
	HP 14.0 Privacy Filter designed by 3M	V8Z57AA#XXX
	HP Nano Lock	1AJ39AA
UCC	HP Conferencing Keyboard	K8P74AA#xxx
	HP USB Collaboration Keyboard	Z9N38AA#xxx
	HP Wireless Collaboration Keyboard	Z9N39AA#xxx
	HP UC Wireless Mono Headset	W3K08AA
	HP UC Wireless Duo Headset	W3K09AA
	HP UC Wired Headset	K7V17AA
	HP UC Speaker Phone	K7V16AA



Options and Accessories (sold separately and availability may vary by country)

Displays	HP EliteDisplay S140u USB Portable Monitor	G8R65AA
	HP EliteDisplay S340c 34-inch Curved Monitor	V4G46AA
	HP EliteDisplay S240n 23.8-inch Micro Edge Monitor	W9A88AA
	HP EliteDisplay E272q 27-inch QHD Monitor	M1P04AA
	HP EliteDisplay E230t 23-inch Touch Monitor	W2Z50AA
	HP EliteDisplay E240c 23.8-inch Collaboration Monitor	M1P00A8



Change Log

Date of change:	Version History:		Description of change:
August 28, 2017	From V1 to V2	Update	Battery information changed to "TBD"
September 6, 2017	From V2 to V3	Update	Weight updated
September 11, 2017	From V3 to V4	Update	Processors family correction made on i5-7300HQ switched to 7300U
September 20, 2017	From V4 to V5	Update	Processors list updated
October 9, 2017	From V5 to V6	Update	Battery Life updated
October 18, 2017	From V6 to V7	Update	Keyboard section updated
November 7, 2017	From V7 to V8	Update	Footnote added to Primary battery on Power section.
December 18, 2017	From V8 to V9	Update	HP Nano Lock added to Options and Accessories
February 7, 2018	From V9 to V10	Update	Footnote n. 10 removed on page 6 and replaced

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